

Federal Emergency Management Agency
Federal Insurance and Mitigation Administration

Appeals and Protests to National Flood Insurance Program Maps

an excerpt from

**A GUIDE
FOR COMMUNITY OFFICIALS**

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APPEALS AND PROTESTS TO NATIONAL FLOOD INSURANCE PROGRAM MAPS

Appeals

The BFEs shown on FIRMs and on the Flood Profiles in FIS reports are the basis for the detailed floodplain boundaries, detailed flood insurance risk zones, and floodway boundaries shown on FIRMs and FBFMs. That information, including the BFEs, is used for floodplain management and insurance purposes by Federal, State, and local agencies. Because of the significance of the BFEs, FEMA is careful to ensure their accuracy. In addition to applying rigorous standards in developing and updating flood risk information, FEMA provides communities with an opportunity to review new or revised BFEs before they become final, and to appeal them if they are believed to be scientifically or technically incorrect.

Background

In preparing initial FISs and FIRMs and in processing revised FISs and FIRMs for RFISs and Map Revisions, FEMA may determine new BFEs for flooding sources for which it has not previously determined BFEs or may revise previously determined BFEs shown on effective FIRMs. When it determines new or revised BFEs for a community, FEMA must, by law, provide the community with a 90-day appeal period.

FEMA starts the appeal period by publishing a notice of the proposed new or revised BFEs in a local newspaper with wide circulation and in the *Federal Register*. The notice is typically published in the legal advertisements portion of the classified advertisement section of the newspaper. Community officials are encouraged to provide an even wider distribution to ensure that residents are aware of the proposed BFEs.

The newspaper notice is published twice; the second publication usually takes place 1 week after the first. On the date of the second publication, the 90-day appeal period begins.

During the appeal period, community officials and individual property owners may appeal the proposed BFEs by submitting data to show that the BFEs are scientifically or technically incorrect. After the 90-day appeal period has elapsed and any Appeals have been resolved, FEMA issues a final BFE determination.

New BFEs and revised BFEs that result from an RFIS are presented in a Preliminary FIS report and on a Preliminary FIRM, which are sent to the affected community before the start of the appeal period. New BFEs that result from a Map Revision are also presented in a Preliminary FIS report and on a Preliminary FIRM that are sent to the community before the start of the appeal period.

However, revised BFEs that result from a Map Revision, depending on whether they are higher or lower than those on the effective FIRM, may be presented in one of two ways. Revisions that result in higher BFEs are generally made through the PMR process, in which the FIRM and FIS report are revised and reprinted and a Preliminary FIRM and FIS report are sent to the community before the start of the appeal period. Revisions that result in lower BFEs, however, may be made by LOMR; therefore, no revised FIRM or FIS report would be prepared.

The LOMR, which is sent to the community, describes the revisions, including those made to the BFEs; officially revises the FIRM; and informs the community of the publication dates for the notice of the revised BFEs. As with FISs, RFISs, and PMRs, the appeal period begins on the second publication date in the local newspaper.

North American Vertical Datum of 1988

Because the National Geodetic Survey has determined that the national vertical control network needs to be readjusted, FEMA will be converting NFIP maps gradually from the old

national datum, National Geodetic Vertical Datum of 1929 (NGVD), to a new national datum, North American Vertical Datum of 1988 (NAVD 88). Therefore, when submitting an Appeal, the appellant should use the reference datum on the preliminary FIRM panel. For more information on the new datum, the reader should refer to the *Converting the National Flood Insurance Program to the North American Vertical Datum of 1988, Guidelines for Community Officials, Engineers, and Surveyors*. Information on how to obtain copies of this document is provided in Appendix B.

How to Submit an Appeal

Because the CEO is responsible for ensuring that the community meets its obligations as a participant in the NFIP, FEMA consults and confers with the CEO, or with a local official designated by the CEO (such as a floodplain administrator, city planner, or city engineer), to resolve Appeals. Therefore, any individual property owner who wishes to appeal the proposed BFEs must submit the Appeal to the CEO or to the designated local official so that the community can comply with the requirements of Part 67 of the NFIP regulations.

The CEO or designated community official should review each Appeal and, when forwarding it to FEMA, should state whether the community supports the Appeal. The CEO or designee may also appeal on behalf of the community.

Appeals must be submitted during the formal 90-day appeal period. However, when the CEO receives or expects to receive numerous Appeals, they should be collected and forwarded to FEMA at the end of the appeal period. It is in the interest of the community for the CEO or designee to notify FEMA of any Appeals before the end of the appeal period; otherwise, FEMA might be unaware of legitimate Appeals and might proceed with issuing the final BFE determination without considering the Appeals.

All Appeals, with supporting data, are to be sent by the CEO to:

Hazard Identification Section
Mitigation Division
Federal Emergency Management Agency
500 C Street, SW.
Washington, DC 20472

Required Supporting Data

An Appeal must be based on data that show the proposed BFEs to be scientifically or technically incorrect. The distinction between “scientifically incorrect” and “technically incorrect” is important because of the differences in the types and amounts of data that an appellant must submit to demonstrate one versus the other. Definitions of those terms are provided later in this Chapter. First, however, it is appropriate to discuss the meaning of the word “correct” as it applies to the BFEs.

The BFEs presented in FIS reports and on FIRMs are the result of engineering methodologies that are used by FEMA FIS Contractors and others whose data FEMA approves and uses. Because numerous methodologies have been developed for estimating flood discharges and flood elevations under a variety of conditions, FIS Contractors and others use their professional judgment in selecting methodologies that are appropriate for the conditions in a particular community.

In general, because the methodologies are the result of attempts to reduce complex physical processes to mathematical models, the methodologies include simplifying assumptions. Usually, the methodologies are used with data developed specifically for the FIS. Therefore, the results of the methodologies are affected by the amount of data collected and the precision of any measurements made.

Because of the judgments and assumptions that must be made and the limits imposed by cost considerations, the “correctness” of the BFEs is often a matter of degree, rather than absolute. For that reason, appellants who contend that the BFEs are incorrect because better methodologies could have been used, better assumptions could have been made, or better data could have been

used must provide alternative analyses that incorporate such methodologies, assumptions, or data and that quantify their effect on the BFEs. FEMA will review the alternative analyses and determine whether they are superior to those used for the FIS.

The data that must be submitted in support of the various types of Appeals are discussed in the subsections that follow.

Scientifically Incorrect BFEs

The BFEs are said to be scientifically incorrect if the methodology used in the determination of the BFEs is inappropriate or incorrect, or if the assumptions made as part of the methodology are inappropriate or incorrect. An Appeal that is based on the BFEs being scientifically incorrect would therefore contend that the use of a different methodology or different assumptions would produce more accurate results (i.e., BFEs that are more correct).

Appeals Based on Contention That Hydrologic Methodology Is Inappropriate or Incorrect

To show that an inappropriate or incorrect hydrologic methodology has been used, an appellant must submit the following data:

- New hydrologic analysis based on an alternative methodology
- Explanation for superiority of alternative methodology
- New hydraulic analysis based on flood discharge values from new hydrologic analysis
- Revised flood profiles
- Revised floodplain and floodway boundary delineations

Appeals Based on Contention That Hydraulic Methodology Is Inappropriate or Incorrect

To show that an inappropriate or incorrect hydraulic methodology has been used, an appellant must submit the following data:

- New hydraulic analysis based on alternative methodology and original flood discharge values
- Explanation for superiority of alternative methodology
- Revised flood profiles
- Revised floodplain and floodway boundary delineations

Technically Incorrect BFEs

The BFEs are said to be technically incorrect if at least one of the following is true:

- The methodology was not applied correctly.
- The methodology was based on insufficient or poor-quality data.
- The application of the methodology included indisputable mathematical or measurement errors.
- The methodology did not account for the effects of physical changes that have occurred in the floodplain.

Appeals Based on Contention That Methodology Has Not Been Applied Correctly

To show that a hydrologic methodology was not applied correctly, an appellant must submit the following data:

- New hydrologic analysis in which original methodology has been applied differently
- Explanation for superiority of new application
- New hydraulic analysis based on flood discharge values from new hydrologic analysis
- Revised flood profiles
- Revised floodplain and floodway boundary delineations

To show that a hydraulic methodology was not applied correctly, an appellant must submit the following data:

- New hydraulic analysis, based on original flood discharge values, in which

original methodology has been applied differently

- Explanation for superiority of new application
- Revised flood profiles
- Revised floodplain and floodway boundary delineations

Appeals Based on Contention That Insufficient or Poor-Quality Data Were Used

To show that insufficient or poor-quality hydrologic data were used, an appellant must submit the following data:

- Data believed to be better than those used in original hydrologic analysis
- Documentation for source of data
- Explanation for improvement resulting from use of new data
- New hydrologic analysis based on better data
- New hydraulic analysis based on flood discharge values resulting from new hydrologic analysis
- Revised flood profiles
- Revised floodplain and floodway boundary delineations

To show that insufficient or poor-quality hydraulic data were used, an appellant must submit the following data:

- Data believed to be better than those used in original hydraulic analysis
- Documentation for source of new data
- Explanation for improvement resulting from use of new data
- New hydraulic analysis based on better data and original flood discharge values
- Revised floodplain and floodway boundary delineations

Appeals Based On Contention That Analysis Contains Indisputable Errors

To show that a mathematical error was made, an appellant must identify the error. FEMA will perform any required calculations and make the necessary changes to the FIRM, FBFM, and FIS report.

To show that a measurement error (e.g., an incorrect surveyed elevation used in the FIS) was made, appellants must identify the error and provide the correct measurement. Any new survey data provided must be certified by a registered professional engineer or licensed land surveyor. FEMA will perform any required calculations and make the necessary changes to the FIRM, FBFM, and FIS report.

Appeals Based on Effects of Physical Changes That Have Occurred in Floodplain

Appellants must identify the changes that have occurred and provide the data FEMA needs to perform a reanalysis. The data may include topographic maps, grading plans, new stream channel and floodplain cross sections, and dimensions of structures.

Among the types of physical changes on which an Appeal may be based is the construction of earthfill levees and similar structures. FEMA has established minimum requirements for structural stability, maintenance, and operation that a levee must meet before it can be recognized as providing 100-year flood protection. The data that appellants must provide in support of an appeal based on the effects of a levee are described in the following section, "General Technical Guidance."

In general, Appeals based on the effects of flood-control structures must demonstrate that the structures are complete and functional. The only exception is for systems that involve Federal funds, where the construction of the system meets the requirement for "adequate progress" as defined in Section 61.12 of the NFIP regulations. The specific data that appellants must provide in support of an Appeal based on the ultimate effects of such a system are also described in "General Technical Guidance."

General Technical Guidance

When developing technical supporting data, appellants should consider the following points:

- Unless Appeals are based on indisputable mathematical or measurement errors or the effects of physical changes that have occurred in the floodplain, they must be accompanied by all data that FEMA needs to revise the FIRM, FBFM, and FIS report. Therefore, appellants should be prepared to perform hydrologic and hydraulic analyses, to plot revised flood profiles, and to delineate revised floodplain and floodway boundaries as necessary.
 - New flooding information cannot be added to an NFIP map in such a way as to create mismatches with the flooding information shown for unrevised areas. Therefore, in performing new analyses and developing revised flooding information, appellants must tie the new flood elevations, floodplain boundaries, and floodway boundaries into those shown on the maps for areas not affected by the Appeal.
 - For Appeals involving new flood discharge values, extensive changes in hydraulic conditions, or complex situations in which changes made to the flooding information developed for one flooding source will affect that developed for others, appellants may be required to provide new information for a large portion of the map.
 - All analyses and data submitted by appellants, including those that show mathematical or measurement errors, must be certified by a registered professional engineer or licensed land surveyor, as appropriate.
 - Appeals, except for those based on the effects of flood protection systems under construction that meet the previously listed requirements, cannot be based on the effects of proposed projects or future conditions. Therefore, any maps, plans, drawings, measurements, or ground elevation data submitted by appellants must be certified as representing existing, or "as-built," conditions.
 - Generally, when appellants are required to submit hydrologic or hydraulic analyses, those analyses must be performed for the same recurrence interval floods studied in the FIS. For riverine, lacustrine, and coastal flooding sources studied by detailed methods, FISs include analyses of the 100-year flood and, usually, the 10-, 50-, and 500-year floods. Often, a hydraulic analysis of the 100-year floodway is performed for riverine flooding sources. On the other hand, in areas subject to shallow flooding, only 100-year flood depths are analyzed. However, in areas subject to alluvial fan flooding (a type of shallow flooding) analyzing the 100-year flood depths may require developing the entire flood discharge-frequency relationship (not just the 100-year flood discharge). Therefore, the extent of the hydrologic and hydraulic analyses appellants may be required to submit is determined not only by the basis of the Appeal, but also the type of flooding source and the scope of the FIS.
 - Unless Appeals are based on the use of alternative models or methodologies, the hydrologic and hydraulic analyses that appellants submit must be performed with the models used for the FIS. For FISs, hydrologic analyses for riverine flooding sources are usually performed with standard engineering methodologies, such as flood-frequency analyses of stream gage data, or with computer models that are in the public domain, such as the U.S. Army Corps of Engineers (USACE) HEC-1 model or the U.S. Soil Conservation Service (SCS) TR-20 model. For FISs, hydraulic analyses for riverine flooding sources are usually performed with the USACE HEC-2 step-backwater model or a similar and widely accepted model, such as the SCS WSP-2 model, or the U.S. Geological Survey (USGS) WSPRO model.
- For the analysis of alluvial fan flood hazards and the hazards associated with coastal storm surge and wave action, including wave height and wave runup, FEMA has established or adopted special

methodologies and computer models. For analyses of lacustrine and sheetflow flood hazards, FEMA uses a variety of standard engineering models and methodologies.

Appellants may request from FEMA copies of the input and output data from the model(s) used in a specific FIS or copies of other calculations or analyses performed for the FIS. (See Appendix B for details.)

- As required by Subparagraph 65.6(a)(6) of the NFIP regulations, when Appeals are based on the use of an alternative hydrologic or hydraulic model, appellants must show that several conditions have been met. First, the model used must have been reviewed and accepted for general use by a Federal agency responsible for floodplain identification or regulation or by a notable scientific body. Second, the model has been well documented (with a user's manual that includes source codes). Finally, the model must be available to all present and future parties affected by flood insurance mapping developed or amended through the use of the model.
 - Although requests for revisions to floodways do not qualify as Appeals, the data on which successful Appeals are based often include new floodway analyses. Information concerning additional data that must be submitted in support of appeals that involve changes to floodways is provided in Chapter 9 of this Guide.
 - Generally, when appellants are required to submit delineations of floodplain boundaries, both the 100- and 500-year floodplain boundaries must be submitted. However, if the FIS includes analyses of only the 100-year flood for the flooding source that is the subject of the Appeal, only the 100-year floodplain boundaries must be submitted. The boundaries are to be shown on a topographic map whose scale and contour interval are sufficient to provide reasonable accuracy.
- To support Appeals based on the effects of earthfill levees or similar structures, appellants must submit the data below to show that the structural stability, operation, and maintenance requirements of Section 65.10 of the NFIP regulations have been met.
 1. Freeboard, Riverine Levee—Evidence that the levee provides a minimum of 3 feet of freeboard above the BFE and that within 100 feet of wherever the flow is constricted (e.g., a bridge), an additional 1 foot of freeboard is added to that minimum; moreover, evidence that the upstream end of the levee provides an additional 0.5 foot of freeboard added to the minimum.
 2. Freeboard, Coastal Levee—Evidence that the levee provides a minimum of 1 foot of freeboard above the height of the 1-percent wave or the maximum wave runup (whichever is greater) associated with the 100-year stillwater surge elevation, but in no case less than 2 feet of freeboard above the 100-year stillwater surge elevation.
 3. Closures—Evidence to show that all drainage structures that penetrate the levee are fitted with closure devices that are structural parts of the levee during operation and designed according to sound engineering practice.
 4. Erosion Protection—An engineering analysis that demonstrates that no appreciable erosion of the levee embankment can be expected during the 100-year flood.
 5. Stability—An engineering analysis that evaluates the stability of the levee embankment and foundation.
 6. Settlement—An engineering analysis that assesses the potential for, and magnitude of, losses of freeboard that may result from settlement of the levee and that demonstrates that the minimum required freeboard will be maintained.

7. Operations—A formal levee operation plan.
8. Maintenance—A formal levee maintenance plan.

Exceptions to the minimum freeboard requirements cited in Items 1 and 2 for riverine and coastal levees may be approved under certain conditions. Any request for an exception must be supported by appropriate engineering analyses that show that, even with the lesser freeboard, a high level of certainty for 100-year flood protection exists.

For riverine levees, the supporting analyses must evaluate the uncertainty in the estimated BFE and must assess, at a minimum, the statistical confidence limits of the 100-year peak discharge; stage-discharge relationships for floods larger than the 100-year flood; and the sources, potential, and magnitude of debris, sediment, and ice accumulation that may affect those relationships. The analyses must also show that the levee will remain structurally stable during the base flood, when such additional loading conditions are imposed. Freeboards of less than 2 feet will not be accepted.

For coastal levees, the supporting analyses must evaluate the uncertainty in the estimated base flood loading conditions. Particular emphasis must be placed on the effects of wave attack and overtopping on the stability of the levee. Freeboards of less than 2 feet above the computed stillwater surge elevation will not be accepted.

In lieu of the data described in Items 1 through 6, appellants may submit certifications by a Federal agency with responsibility for levee design that the levee has been adequately designed and constructed to provide 100-year flood protection.

- To support an Appeal based on the effects of a flood protection system that

involves Federal funds and is under construction at the time of the Appeal, appellants must submit the data below to show that the requirements of Section 61.12 of the NFIP regulations have been met.

1. Evidence that adequate progress has been made on construction (i.e., evidence to show that 100 percent of the total cost of the complete system has been authorized, at least 60 percent of the total cost has been appropriated, at least 50 percent of the total cost has been expended, all critical features are under construction and each is 50 percent completed as measured by the expenditure of budget funds, and the community has not been responsible for any delay in the completion of the system).
2. A complete statement of all relevant facts concerning the flood protection system, including, but not limited to, supporting technical data, cost schedules, budget appropriation data, and extent of Federal funding of construction of system. The statement must include information that identifies all persons affected by the system or by the Appeal; a full and precise statement of the purpose of the system; and a detailed description of the system, including construction completion target dates.
3. True copies of all contracts, agreements, leases, instruments, and other documents related to system
4. An analysis that shows how the statement of facts (Item 2) and the documents (Item 3) bear on the evidence of adequate progress.
5. Statement of whether the flood protection system is the subject of litigation before any Federal, State, or local court or administrative agency and, if so, the purpose of that litigation.
6. Statement of whether the community previously requested a determination

concerning the same subject and, if so, the disposition of request.

The procedure described above does not apply when the flood protection system under construction is being financed without Federal funds.

Appeal Resolution Procedures

The procedures that are to be followed by the appellant and FEMA in handling an Appeal are summarized in Figure 4.

By a letter to the CEO, FEMA will acknowledge receipt of all Appeals submitted. Copies of the acknowledgment letter will be sent to each appellant unless the number of appellants is so great that to do so would not be practical. In such cases, the CEO is responsible for informing appellants that FEMA has received the Appeals.

FEMA will review all Appeals and the supporting data submitted with them. If any questions or problems arise, FEMA will work with the CEO, the community official designated by the CEO, or the appellants to resolve them.

If additional supporting data are required, FEMA will request those data by letter. The letter will be sent to the CEO. A copy of the letter will be sent to the community official designated by the CEO, if appropriate, and to the individual appellant, if it is practical to do so.

To avoid delaying the resolution of Appeals, FEMA will generally allow only 30 days for the CEO to provide the requested data. If the data are not provided within the allotted time, FEMA will resolve the Appeals using the data originally submitted. If the requested data are provided within the 30-day period, FEMA will consider them before resolving the Appeals.

It should be noted here that, although the appeal period is the appropriate time to submit scientific or technical data concerning the BFEs, if a community is unable to obtain and submit such data at that time, it may pursue a Map Revision under the provisions of Part 65 of the

NFIP regulations after the FIRM has become effective. (See Chapter 5.)

If Appeals are not supported by the data that have been submitted, FEMA will inform the CEO by letter that the Appeals are denied. If Appeals are adequately supported, FEMA will revise the BFEs and any other information affected by the Appeals. If the Appeals involved the proposed BFEs shown on a new or revised FIRM, FEMA will revise the FIRM and, if necessary, the accompanying FIS report and FBFM. A letter that explains the resolution of the Appeals will be sent to the CEO. Copies of the revised reports and maps may be sent if appropriate. The community will have 30 days to review and comment on the resolution. At the end of the review period, after all comments on the Appeal resolution have been addressed, FEMA will issue a final BFE determination letter and publish the BFEs in the *Federal Register*.

If the Appeals involve BFEs proposed in a LOMR, FEMA will explain the resolution of the Appeals in a letter to the CEO. The community will have 30 days to review and comment on the resolution, after which FEMA will issue a final BFE determination letter and publish the BFEs in the *Federal Register*.

Appeals to District Court

Under the provisions of Section 67.12 of the NFIP regulations, an appellant who is aggrieved by the final determination may, within 60 days of receipt of the final determination letter, appeal the determination to the U.S. District Court for the district in which the community is located. While the Appeal is being reviewed by the U.S. District Court, the final determination will be effective, unless it is stayed by the Court for good cause shown.

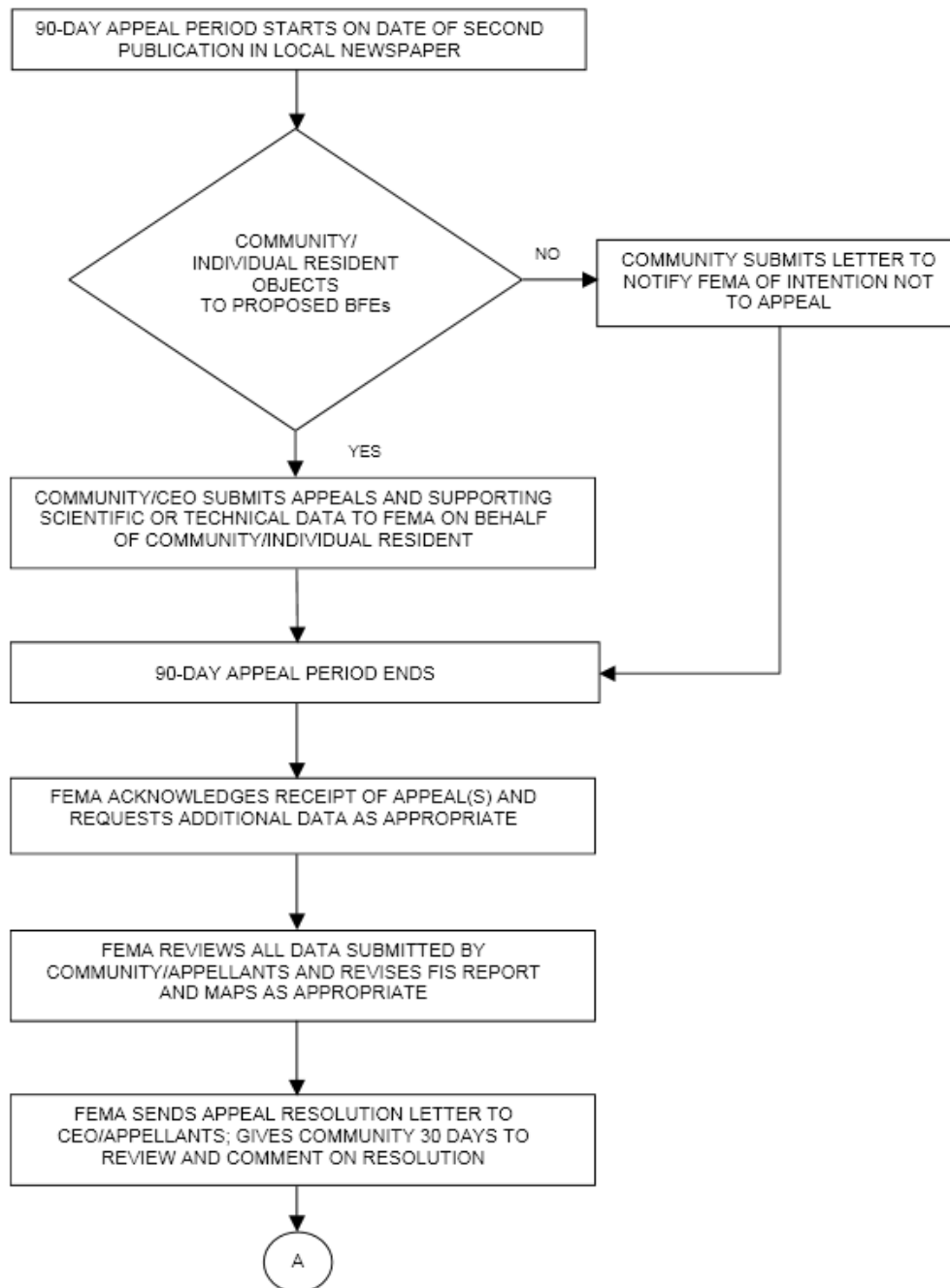


Figure 4. Procedure for Processing Appeals

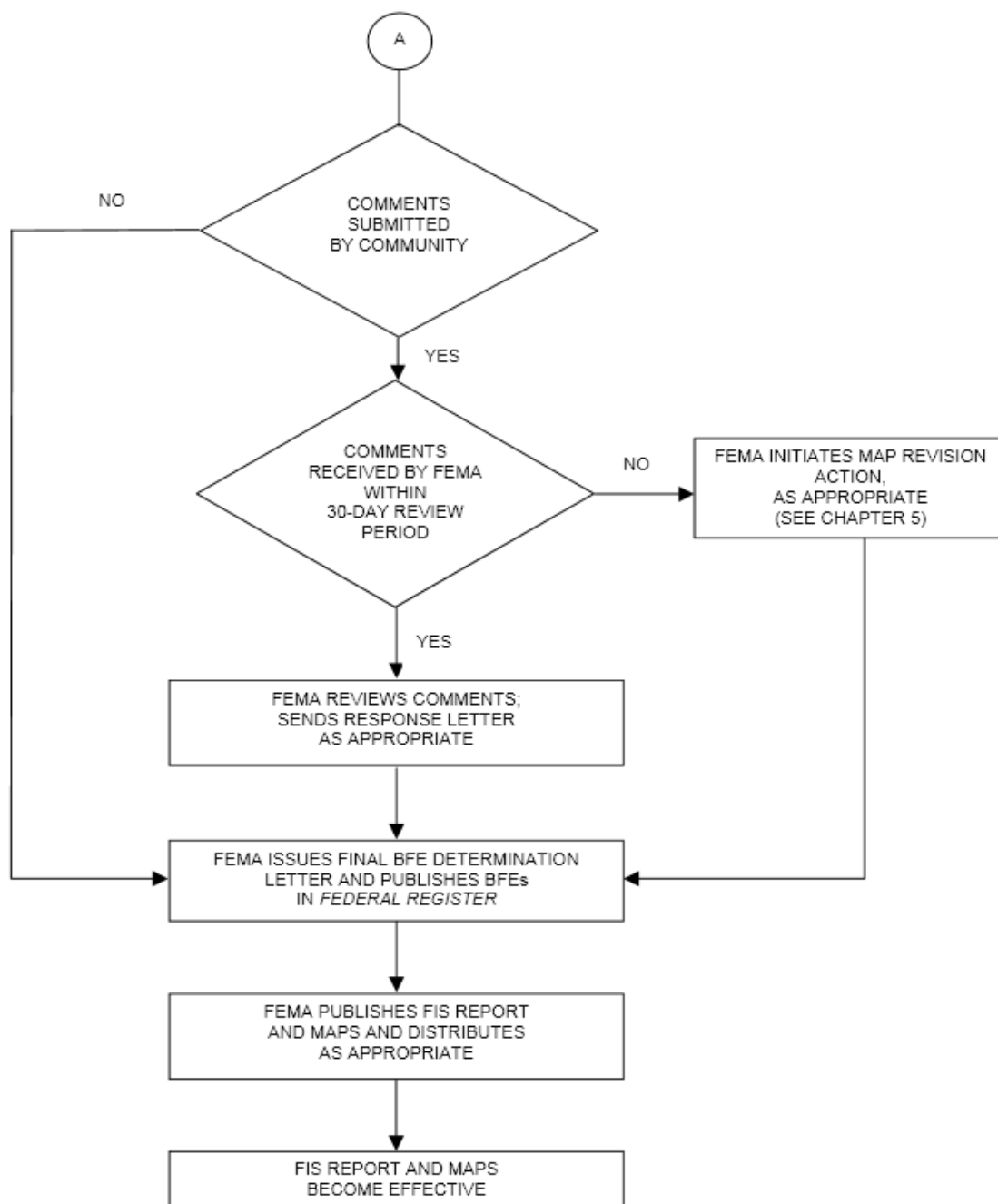


Figure 4. Procedure for Processing Appeals (Cont'd)

Protests

During the formal 90-day appeal period, a community official or an individual property owner may wish to object to information shown on the FIRM, FBFM, or FIS report. If the objection does not involve the proposed BFEs, it does not, according to Part 67 of the NFIP regulations, constitute an Appeal. Such objections are called Protests.

Like Appeals, Protests should not be submitted directly to FEMA by individual property owners. They are to be submitted to the CEO or a community official designated by the CEO. The CEO or designated community official should review the Protests and, when forwarding them to FEMA, should state whether the community supports them. Protests should be sent to the FEMA Headquarters office at the following address:

Hazard Identification Section
Mitigation Division
Federal Emergency Management Agency
500 C Street, SW.
Washington, DC 20472

Protests will generally involve changes to one of the following:

- Floodplain boundary delineations
- Corporate limits
- Roads and road name

The various types of Protests and the data that must be submitted to support them are discussed in the following paragraphs.

Changes to Floodplain Boundaries

Flooding Sources Studied by Detailed Methods

Usually, detailed floodplain boundaries are delineated using topographic maps and the BFEs resulting from the hydraulic analysis performed for the FIS. If topographic maps or other ground elevation data are submitted that are of greater detail than those used by FEMA or that show more recent topographic conditions, FEMA will use them to revise the floodplain boundaries shown on the FIRM and FBFM.

All maps and other supporting data submitted must be certified by a registered professional engineer or a licensed land surveyor and must reflect existing conditions. Maps prepared by an authoritative source, such as the USACE, USGS, U.S. Bureau of Reclamation, or a State department of highways and transportation, are acceptable without certification as long as the sources and dates of the maps are identified.

Flooding Sources Studied by Approximate Methods

Usually, approximate floodplain boundaries are delineated with the best available data, including flood maps published by other Federal agencies, information on past floods, and simplified hydrologic and hydraulic analyses. If more detailed data or analyses are submitted, FEMA will use them to revise the floodplain boundaries shown on the FIRM and FBFM. Such data and analyses would include the following:

- Published flood maps that are more recent or more detailed than those used by FEMA
- Analyses that are more detailed than those performed by FEMA or that are based on better data than those used by FEMA

All data and analyses submitted must be certified by a registered professional engineer or licensed land surveyor.

Changes to Corporate Limits

The corporate limits shown on NFIP maps are taken from community maps obtained by FEMA Contractors during the course of processing FISs, RFISs, or PMRs. When changes to the corporate limits shown on the NFIP map are necessary, an up-to-date community map should be submitted. FEMA may use the community map to revise the corporate limits shown on the FIRM and FBFM, or will explain to the CEO why no changes were made.

Changes to Roads and Road Names

In general, FEMA shows on its maps all roads that are in or adjacent to floodplains. If maps are submitted that show new or revised

information concerning the locations and names of roads in or adjacent to floodplains, FEMA will revise the FIRM and FBFM as appropriate.

Protest Resolution Procedures

The steps that are followed in processing Protests are shown in Figure 5. Changes that must be made to the FIRM, FBFM, and/or FIS report as a result of Protests are usually incorporated at the time the maps and report are printed. Generally, FEMA will explain the resolution of any Protests that have been submitted in the letter that informs the CEO of the final BFE determination. However, when necessary to clearly explain the revisions to be made, FEMA may issue a separate Protest resolution letter and/or provide the community with revised copies of the affected FIRM and FBFM panels.